ABSTRACT

The present invention provided a norbornene compound with cross-linkable groups and their derivative polymers, wherein said cross-linkable groups were olefin or epoxy groups. Norbornene polymers with cross-linkable side chain and their block copolymers as well as modified derivatives were prepared via living ring-open metathesis polymerization method. The resulting polymers with excellent solubility and optic properties had narrow molecular weight distribution, well-controlled molecular weight, small refraction ration and high transparency. They were also suitable for preparing hybrid materials with high thermal stability and chemical resistance.